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Does a Two-Week Pre-K Camp Have an Effect on the Outcomes of
Kindergartners Over the First Two Grading Periods?

A Project Report:
Presented to
The Graduate Faculty
Central Washington University

In Partial Fulfillment
of the Requirements for the Degree
Master of Education
Reading Specialist

By
Jessica Virden
June 2011

ABSTRACT

DOES A TWO-WEEK PRE-K CAMP HAVE AN EFFECT ON THE ACADEMIC OUTCOMES OF KINDERGARTNERS OVER THE FIRST TWO GRADING PERIODS?

by

Jessica Virden

June 2011

This project will examine the academic effects a two-week, Pre-Kindergarten camp has on students entering kindergarten. The goals of the summer camp were to provide the students an opportunity to learn school routines, familiarize themselves with the teachers and building layout, and begin learning early reading and math skills. The program's focus was to make the students' transition into the school year both smooth and successful. The participants were evaluated two different times, spanning four months. Current literature, as well as data collection was used to determine results. t-tests comparing two equal variances were tabulated on seven literacy assessment components to determine if academic growth made by students who attended camp was statistically significant when compared to those who did not attend camp. The paper culminates with a summary of the findings, recommendations, and suggestions for additional research.

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Chapter One

Introduction

Background of Study

“The transition to school often sets the tone for the child’s future school experiences” (Squires, 2003). It was the knowledge of this critical information that developed the Pre-K summer camp program offered by Federal Way School District. Lake Grove Elementary, a school in western Washington State, has offered the Pre-K Summer Camp program since 2008. The goals of the camp are academic, social, emotional and developmental. However, they all have one thing in common--they are designed to ensure a child’s readiness for kindergarten. Skills, as witnessed by kindergarten teachers, that most students are entering school lacking. Kindergarten readiness includes a variety of behaviors such as being able to sit and listen, follow directions, identify their name and letters in their name, and stamina for a full day of learning. This two-week summer school provides students with opportunities to familiarize themselves with the school, teachers, and routines. Camp also builds confidence and eases the initial fear of starting the school year. According to kindergarten teachers and parents of past camp attendees, the benefits are positive and the camp serves as a vital part of kindergarten success at Lake Grove.

Prior to the start of summer camp, kindergarten teachers meet to discuss the goals each has for the outcomes of this early intervention program. Beyond academic goals, summer camp provides students with the necessary emotional and social foundations they need to feel confident and comfortable in their new surroundings. This summer school also provides the teachers with the opportunity to get to know the students, evaluate which students will work well together, and learn each student’s individual needs. This process allows for a more efficient use

of time at the beginning of the year. With the current trend of more demanding standards and continuous new material to cover, every minute in the classroom is important.

Statement of the Problem

In hard economic times, school districts across the nation are being forced to compromise programs. Federal Way School District is no different. The summer camp has perceived benefits to the students, their parents, and the kindergarten teachers at Lake Grove. However, school officials may question whether the academic gains made during Pre-K camp are enough to keep it in the following year's budget. Additionally, readiness for kindergarten continues to be an ongoing concern for kindergarten teachers. To many educators, it is known how important positive transitions are to the success and well-being of each student involved. Squires (2003) said,

A thoughtful, positive transition can help the child and family view school and learning favorably. Research shows that children who enter kindergarten eager to learn and expecting to be successful are more likely to be successful in school and to accomplish their goals in life. (p. 5)

According to Deborah Wood, member of The Anne Arundel County Early Childhood Coalition (as cited in Winslow, 2010), the transition time between pre-k and kindergarten is "the most important period of time in anyone's life, and yet (it's) the period of life we invest the least amount of dollars. Less than 10 percent of what's invested goes to kids under 5" (p. 2). It is of concern to discover why more emphasis is not being placed on early childhood interventions. The goal of this paper is to inform educators and administrators on the evaluative effects the Pre-K Summer Camp has on the incoming kindergartners. As a current kindergarten teacher, the author sees these effects on a daily basis. Students enter the classroom that first day confident,

excited, and comfortable. When asked, teachers are seeing more and more students entering school unprepared and unaware of how to function in this structured academic and social setting. It is the author's opinion that this program is something that needs to be planned and budgeted for as she believes the benefits are both positive and hard to ignore.

Purpose of the Project

For the author, and as a teacher of Lake Grove's summer camp for two years, the experiences of summer camp have been both motivating and eye opening. While the benefits are evidenced by students who seem to enter the school year more comfortable in the routines and with the staff, confident in their prior knowledge, excited to see their new friends and classrooms, the author was curious of the academic effects as a result of this program. Therefore, the question driving this study is, "What are the academic benefits to students who attended summer camp compared to those students who did not?"

The purpose of this project is twofold. First, data collected will be used to determine any academic gains of the students who attended the Pre-K summer camp in comparison to the students who did not attend camp. This information will be presented to the school board and other school officials to make an informed decision about the effects of the program and plans to keep it in the budget for the following school year.

The second purpose of camp and the driving force behind this project is related to an individual goal for the author. Smooth transitions and readiness for kindergarten sets children up for a successful school year. The author believes camp provides kindergarten teachers the opportunities to get to know parents and ease their own fears and anxieties about their son or daughter starting school. It also allows teachers to give parents useful information and help about

how to work with their student at home. According to Claudia Lahaie (2008), professor at McGill University,

Parent involvement is associated with an increase in the level of English proficiency for children of immigrants. It is also associated with a decrease in the gap in math scores between immigrant children from English and non-English speaking backgrounds. Parental involvement decreases the gap in math scores between children of immigrants and children of the native born by a third of a standard deviation. (p. 1)

Educators now are teaching more second language learners and increasingly diverse populations (OSPI, April 2011). According to the Office of Superintendent of Public Instruction and the Washington State Report Card for Federal Way School District, Lake Grove Elementary's student population is made up of 37.7% Hispanic students, 29.3% Caucasian, 11.6% African American, 10.8% Asian/Pacific Islander, 7.9% Asian, 2.9% Pacific Islander and .3% American Indian (OSPI, April 2011). Lahaie (2008) speaks to these demographics and their challenges when she goes on to say,

When their parents do not speak English at home and/or lack U.S. citizenship, the children of immigrants are at significant risk to perform more poorly than their native counterparts. Children of immigrants in kindergarten generally have lower school readiness than children of the native born. (p. 1)

Because of the diverse student population in Lake Grove catchment areas, parent involvement will need to be a key part of successful kindergarten transitions.

Significance of Study

It has been observed by the kindergarten teachers at Lake Grove that students who attend the Pre-K camp are not only more comfortable with the academic requirements, but they have been given the opportunity to learn the rules and routines a structured school setting provides. This is important as many students are entering kindergarten with no previous exposure to a daycare or preschool facility. According to NAEYC (2010), only “14 percent of 3-years-olds and 38 percent of 4-year-olds in 2007 were being served by state-funded pre-kindergarten, Head Start or special education programs.” Such programs are vital in building skills and setting up routines. When working with students from low academic and poverty stricken households, routines become even more of a necessity as they prove to be one of the few solid things in a child’s life. Wildenger, McIntyre, Fiese, and Eckert (2008) agree:

Routines are thought to be critical in establishing a feeling of predictability and thus enhancing feelings of security, trust, and independence in young children.

Routines may be especially beneficial for children experiencing stressful family conditions such as poverty and single-parenting (p. 1).

According to the research done by Wildenger et al., routines are an important part of successful transitions. Building confidence and familiarity with routines were a major goal of Lake Grove’s summer camp and are further outlined in the following paragraphs.

Methodology

The outcomes of this study were determined using information from assessments given at two different points during the first four months of kindergarten. The assessments are part of the Federal Way School District literacy assessment packet, and as a whole are given to each kindergartner four times a year. The first grading period, which ends in October, provides

teachers information based on assessments given to prepare progress reports for the fall round of student-led conferences. The second grading period, which ends in January, assesses students for winter report cards. Both sets of assessments include letter names and sounds, concepts about print (print conventions), blending (of phonemes) and segmenting (onset rime), sight word recognition and blends. The concepts about print section of the assessment are based on the works of Marie Clay and her book, *An Observation Survey of Early Literacy Achievement* (1993) and focus on the development and implementation of proper reading behaviors. The other components of the assessment are based on skills necessary for early reading and writing.

In addition to being exposed to school routines and expectations, teachers view students who attend summer camp as ones who have built a firm foundation for learning and are setting themselves up for academic and social success. Summer camp provides direct and developmentally appropriate instruction, small and individual group work, as well as several one-on-one interactions between teacher and student. This, combined with multiple opportunities to explore new ways of thinking and learning, provides each child with necessary skills needed for the upcoming school year. In an article by Burchinal, et al. (2008),

Research evidence suggests that children learn more in classroom environments characterized by skillful combinations of explicit instruction, sensitive and warm interactions responsive feedback, and verbal engagement/stimulation intentionally directed to ensure children's learning awhile embedding these interactions in a classroom environment that is not overly structured or regimented. (p.142)

The Pre-K summer camp curriculum may be simple in terms of what is expected of students academically, but is definitely meaningful in purpose. According to teachers and parents involved, Lake Grove's Pre-K Camp has been successful thus far. The daily schedule consisted

of whole group and individual work time in both literacy and math areas. Students were exposed to shared reading, read alouds, and guided reading groups as part of a balanced literacy approach, but also had time to learn (and or review) basic skills such as counting, number and letter identification, colors and shapes, interact with other children while making learning choices, and build their confidence as a new student.

Limitations

While the study may have positive outcomes, there are limitations. For this particular investigation, only one school, Lake Grove Elementary, will be involved. The data used will be collected from the students involved in the 2010 Pre-K summer camp and those who are also currently enrolled in kindergarten, but did not attend camp at Lake Grove. Other limitations include limited data collection. Data were collected in the first and second grading periods of the 2010-2011 school year and were only collected for literacy.

Definition of Terms

For the purposes of this project, the following terms are defined.

Anecdotal notes are described as, “a description of behavior; a reporting of observed behavioral incidents” (Harris & Hodges, 2005, p. 10).

Balanced literacy, as described by Vacca, et. al. (2003), is “a philosophical stance that recognizes the contributions of many different approaches and perspectives to teaching reading and writing” (p. 607).

Developmentally appropriate practice is described as, “the matching or gearing of the reading curriculum to children’s developing abilities” (Vacca, et al., 2003, p. 609).

Also according to Vacca, et al. (2003), **explicit instruction** can be described as “instruction that makes clear the *what, why, when* and *how* of skill and strategy use” (p. 609).

Guided reading is “reading instruction in which the teacher provides the structure and purpose for reading and for responding to the material read” (Harris & Hodges, 2005, p. 102).

Harris and Hodges (2005), **Head Start** is defined as, “a federally funded educational program in the United States designed to stimulate the intellectual, physical, and emotional development primarily of low-income pupils of ages four, five, and six, with the intent to improve their later performance in school” (p. 105).

An **onset** is “that part of a syllable preceding the syllable peak or nucleus; normally, the consonants preceding the vowel of a syllable” (Harris & Hodges, 2005, p. 171).

Phonemes are defined by Harris and Hodges (2005), as “a minimal sound unit of speech that, when contrasted with another phoneme, affects the meaning of words in a language” (p. 183).

Phonemic awareness is “awareness of the constituent sounds of words in learning to read and spell” (Harris & Hodges, 2005, p. 185).

Pre-reading is defined by Harris and Hodges (2005), as “activities designed to help students activate prior knowledge, set purpose, and/or engage their curiosity before reading” (p. 192).

A **print convention** is “any of several rules that govern the customary use of print in reading and writing, including location concepts, punctuations, and capitalization” (Harris & Hodges, 2005, p. 194).

Readiness is defined as “preparedness to cope with a learning task” (Harris & Hodges, 2005, p. 206).

Read alouds are “generally a group event in which literature is read orally” (Vacca, et al. 2003, p. 613).

Recognition is “an item that requires identification of the correct choice from among several possibilities” (Harris & Hodges, 2005, p. 215).

A **rhyme** is defined by Harris and Hodges (2005), as “identical or very similar recurring final sounds in words within or, more often, as the ends of lines of verse” (p. 221).

A **rime** is defined by Harris and Hodges (2005), as “a vowel and any following consonants of a syllable” (p. 221).

Shared reading can be described by Harris and Hodges (2005) as

“an early childhood instructional strategy in which the teacher involves a group of young children in the reading of a particular big book in order to help them learn aspects of beginning literacy, as print conventions and the concept of *word*, and develop reading strategies, as in decoding or the use of prediction” (p. 233).

A **sight word** is “a word that is immediately recognized as a whole and does not require word analysis for identification” (Harris & Hodges, 2005, p. 233).

According to Harris and Hodges (2005), **socioeconomic status** is “a person’s position or standing in a society because of such factors as social class, level of education, income and type of job” (p. 236).

Title 1 schools are “federally funded compensatory education programs in the United States, intended to serve children of lower socioeconomic backgrounds who may be at risk of school failure, particularly in the elementary grades” (Harris & Hodges, 2005, p. 257).

A **t-test** is “the most commonly used method to evaluate the differences in means between two groups” (Hill & Lewicki, 2006, p. 25).

Outline of the Project

In Chapter Two, a variety of literature is reviewed and summarized based on current research related the topics of kindergarten transitions, Head Start, and kindergarten readiness. Chapter Three describes the methodology of the project, the logistics of Lake Grove's summer camp and what the two week experience looked like for incoming kindergartners. Participant selection, data collection, and research findings and results will be described in Chapter Four. A summary of results, relationship to current research, recommendations for classroom practice, and suggestions for additional research will be discussed in Chapter Five.

Chapter Two

Literature Review

It is suggested from the research that starting the year off right is vital to success. Now even more, it is known how important it is to reach out to those students before they walk through the classroom door. The following is an overview of literature relative to kindergarten readiness and providing transitions into the first full year of formal schooling. The research was found using a variety of scholarly resources and electronic databases such as Google Scholar, ProQuest, EBSCO, and ERIC using the descriptors (and any combinations, thereof) *Pre-kindergarten (Pre-k)*, *preschool*, *Head Start*, *child care*, *kindergarten transitions* and *kindergarten readiness*. The remaining sections of this paper have been divided into four subcategories and culminate in an overall summary. The areas of research reviewed include: kindergarten transitions, pre-kindergarten/preschool, Head Start, and kindergarten readiness.

Kindergarten Transitions

The transition into formal school from a childcare center, preschool or Head Start can be a very exciting time for some children. For children who have not had such structure prior to entering kindergarten, this can also be a frightening time as they do not know what to expect. Strong family involvement and steady, reliable household routines assist in making this transition as smooth as possible. Overall, much of the research agrees that there are main factors that play into a successful transition into kindergarten. Some of these are, but not limited to, parent involvement, early implementation of routines, and enrollment at a high quality pre-kindergarten center prior to starting the school year. According to Wildenger, et al. (2008):

The transition to formal schooling is both an exciting and challenging event experienced by young children and families. The kindergarten transition is

considered an important developmental milestone and has even been labeled a “sensitive period” necessary for later school success. (p. 70)

The authors discuss how important routines at home are to incoming kindergartners to balance out new changes in their school life. Routines are an important feature of family life. Forming and following common daily routines such as a waking up, dinnertime and bedtime are powerful organizers of family behavior and are instrumental to children during times of transition.

Not only do routines provide children with a sense of security and trust, they also create independence. The authors researched the effects of daily routines on the success of kindergarten transitions. It is found that routines and family support strengthen and prepare students for this important change in their life. The authors suggest that family “implement a similar schedule prior to transition to decrease disruption in routines and ease the stress associated with discontinuities from early educational environments to kindergarten” (Wildenger, et al., 2008, p. 69).

Kindergarten teachers were surveyed to determine what they thought were appropriate “transition practices” and what they felt important to see and do during this critical time in the kindergarten school year. The researchers, Earl, Pianta, Taylor and Cox (1999), determined “ready schools” have three characteristics: (a) they reach out, linking families, preschool settings, and communities with schools; (b) they reach backward in time, making connections before the first day of school, and (c) they reach with appropriate intensity” (p. 199). The authors continue by explaining that while “some practices are aimed at facilitating children’s transitions into kindergarten, practices that would be most effective-- those that reach out, backward in time and with appropriate intensity-- are relatively rare” (p. 199). The researchers continued by

explaining that in order to really make this transition time smooth and successful, connections need to be made between their pre-kindergarten center (whether it be a preschool, child care facility or Head Start) and the school prior to September. Earl, Pianta, Taylor and Cox (1999) state, "Optimal transitions to kindergarten for children are best supported by practices that are individualized and engage the child, family, and preschool setting prior to the first day of school" (p. 199). It is believed that this would eliminate multiple discrepancies teachers are seeing between their students the first few weeks of school.

Parents play a vital role in the task of getting a child ready to enter kindergarten, as they are considered a child's first teacher, and should be positive role models in their son's or daughter's life. They are the first to decide their child's readiness for school and provide them the necessary skills needed to be successful. McIntyre, Eckert, Fiese, DiGennaro, and Wildenger (2007) discovered that family experiences and involvement play a significant role in providing kindergartners a smooth beginning to the school year. "Family involvement in transition planning has been described as important for positive child outcomes" (McIntyre, et al., 2007, p. 83). The authors described what families can do and what has been preventing them from being involved in their child's education. The study reported most parents do not know what to work on with their student, or do not have the time to dedicate to working with them. However, a positive finding was that most parents are interested in learning how to work with their student and this is a "ripe time to develop strong, collaborative family-school partnerships" (McIntyre, et al., 2007, p. 83). This connects directly with other studies researched during this project as it is known family involvement is a vital part of successful kindergarten transitions.

Nelson (2004) described one way to assist in smooth transitions while stressing the importance of making connections prior to September's first day of school. This is especially

important for students who are faced with economic, family or language issues. "Previous research has shown that a seamless transition to kindergarten has a positive effect on achievement in kindergarten, particularly for children from impoverished backgrounds" (p. 187). Nelson further argues that "kindergarten curriculum should build on and expand the preschool experience. Thus, a child-centered instructional approach should be used in both programs to provide vertical continuity as children move up in grade" (p. 187). The author continues by explaining how teachers, parents and early learning centers need to work together to "create horizontal continuity across contexts" (p. 187). Nelson feels that one way to create such connections is for teachers to do home visits and for parents to make more time to visit their child's school early and observe the classrooms and meet the teachers. This would allow teachers to gather information on children's development which would allow for more individualized instruction. This is an important first step in providing an exceptional education. Without much time to waste during the school year, having prior knowledge of students would eliminate the time teachers have to spend in September getting to know each student as well as their strengths and areas of weakness.

Sara E. Rimm-Kaufman and Robert C. Pianta (2000), describe many of the reasons why teachers feel their students are entering kindergarten unprepared. According to a survey that was given in 1996, teachers reported they perceived that "16% of children had difficult entries into kindergarten. Up to 46% of teachers reported that half their class or more had specific problems in any of a number of areas in kindergarten transition" (p. 147).

The survey described teachers' perceptions of children's issues with beginning school. These perceptions reflect "teachers'" expectations for kindergarten children, their notion of what it means for children to have a smooth entrance into kindergarten, and their perception of the

challenges they face in helping children prepare for first grade” (Rimm-Kaufman & Pianta, 2000, p. 147). Also noted in the article,

Children with higher cognitive competencies at kindergarten entry have higher achievement test scores, are less likely to be retained in school, and are less likely to be referred for special education 3 years later. Preschool experience has been shown to contribute to such likes: children with more comprehensive preschool experiences tend to have a smoother adjustment to kindergarten (Rimm-Kaufman & Pianta, 2000, p. 149).

While teachers agree on what it takes to have a smooth start to the school year, children are not always coming in with “what it takes”. According to Rimm-Kaufman & Pianta (2000), many children are coming to school from very diverse backgrounds. These include varied home lives, background knowledge and personal experiences. The authors also remind readers that expectations and demands change from preschool to kindergarten. These pose challenges for students who are unprepared.

This supports why more connections need to be made between early learning centers and schools for the children preparing to enter kindergarten. Continuity between sites, as well as strong parent involvement and the implementation of routines and structure in the home, are important and effective in providing a smooth adjustment period for children starting kindergarten. In the following section, readers will understand the importance and impact a pre-kindergarten or pre-school plays on these children as well.

Pre-kindergarten/Preschool

This section will focus on the importance of early learning centers, and their role in the smooth adjustment period for a student entering kindergarten. Preschool is a popular choice in

childcare for many parents. Time in preschool allows students to develop critical skills that go significantly beyond academics. While the following research presented shows a general consensus that preschool is important, the authors argue that the program must be of high quality.

Clifford, Barbarin, Chang, Early and Bryant (2005) examined features of various pre-k programs and determined what made a “quality” program for young students. Using information in areas such as location of school, teacher education background and program length, researchers determined that children enrolled in a “high-quality” program for a full day, five days a week for nine to ten months a year show greater growth and experience a smoother transition into a formal school setting. They continue by stating:

Children in full-day kindergarten classrooms, when compared with those in part-day rooms, were more likely to experience a richer repertoire of activities including dramatic play, science, art, music, social studies, and gross motor.

Longer programs may allow teachers the flexibility to individualize instruction to match the children’s needs and interests. Kindergarten children who attend full-day programs attain higher reading and math achievement scores than children in part-day programs. If this finding extends downward in age, then full-day pre-k is likely to be better than part-day programs. However, how much length of day matters depends on the quality of the program (Barbarin, et al., 2005, p. 128).

Barbarin, et al. (2005), also found that pre-kindergarten programs housed within elementary schools are associated with more experienced staff and produce more high quality results. The schools scored higher on ratings of “staff-child interactions, discipline, supervision, encouraging children to communicate, and using language to develop reasoning skills” (p. 128).

They also had better “provisions for learning, which includes ratings of furnishings, room arrangement, gross motor equipment, art, blocks, dramatic play, and nature-science” (p. 128). These factors could be used by parents when choosing a preschool or pre-kindergarten program. According to the author, these “factors” are what parents deem appropriate and important, and what teachers see as fundamental building blocks for a successful year.

Preschool is not only important for building routines and structure for implementing early skills, but it is also vital in providing opportunities for children to adjust socially and make new friends. In an article by Johnson, Ironsmith, Snow and Poteat (2000), researchers examined the effects of early learning programs and a student’s social skills acquired in preschool. These skills were then passed on to help in a transition to kindergarten and later into higher grades.

According to Johnson, et al. (2000)

Children who have strong social skills and high-quality stable friendships enter school with high expectations for success. Preschool is the ideal time for the child to develop social skills and friendships. Elementary schools would do well to maintain and enhance those skills. (p. 212)

The researchers observed preschool children through the end of kindergarten, and noted how the peer relationships affected their early school years. It appeared that these relationships had a very positive effect on the subjects. “Peer relationships in preschool are just as important as friendships among older children. Preschool seems to be a critical period for children’s social development and one that teachers and parents cannot afford to ignore” (Johnson, et al. 2000, p. 212).

According to teachers, any long-term effects of relationships made in the early years of education can be seen in kindergarten and through later grades. It is noticed that children with

good social skills in preschool have more friends and have a smoother transition into kindergarten. “When bonds are made between 3 and 4 year olds, the transition time is easier on everyone involved. Establishing these close ties with classmates provides kindergartners a sense of security they need for exploring and coping with new surroundings” (Johnson, et al. 2000, p. 209). This is the time when early social skills such as taking turns, sharing, establishing self-control, verbalizing feelings and listening are taught and children are assisted in dealing with social adjustment. The authors continue by stating,

Familiarity and support from prior friendships can make new environments seems less strange and overwhelming. Two essential school supplies that kindergartners need to bring with them on the first day are previous friends who are entering kindergarten with them and strong social skills that assist the child in forming new friendships. (Johnson, et al. 2000, p. 209)

Research from this article by Johnson, et al. (2000) shows that “peer relationships in childhood were a major predictor of psychological adjustment in adulthood” (p. 209). Knowing this, it is even more important that preschool and early learning experiences are had, not only for the student’s academic benefits, but for their social advantages as well. It is suggested that preschool is an important experience for children, especially to aid in the transition into elementary school. Yet, many children enter kindergarten unprepared and spend years “catching up.” This is disheartening when according to the research a student’s first few years of school are crucial for developing readiness for school. This is also the time when gaps in skill levels begin to appear. “Without a strong foundation of early learning, many children start school with a deficit, and teachers spend years trying to help these children catch up” (Doggett & Wat, 2010, p. 8).

Doggett and Wat (2010) pose the statement: “The United States can’t ‘race to the top’ when many children are not even at the starting line.” According to the article, pre-k experiences “significantly improve all children’s cognitive skills” (p. 8). They also prove effective in preventing retentions in later grades, dropping out, and placement in special education. However, just being in a preschool or pre-k program is not enough. The authors argue these experiences must be of a high quality. Many programs show discrepancies in expectations and teacher experience among others.

Doggett and Wat (2010) state, “to ensure that *all* children have the strongest foundation for success as students, we must reduce these disparities during the early years” (p. 8). Doing this will produce the strongest results. The authors also suggest more exposure for students to text in order to improve reading, writing, comprehension and vocabulary. This is important as this is where teachers are seeing students enter kindergarten with large gaps.

More than 30% of low-income children have no familiarity with print. That is, they do not know that books are read from left to right or where a story starts or ends. About 60% of low-income children and more than a third of middle-income children do not know the alphabet (Doggett & Wat, 2010, p. 8).

When authors followed students through the second grade, they determined that, “compared to those who did not have the same pre-K experience, participants showed significant improvements in early language, literacy, and math skills at kindergarten entry, did significantly better in math, language comprehension, and vocabulary skills through 2nd grade” (Doggett & Wat, 2010, p. 10).

From the research presented thus far, it is clear that more work needs to be done to reduce the number of discrepancies between preschool and pre-kindergarten centers and elementary

schools to ensure that all are of the highest quality. This can be achieved by improving collaboration and communication between the two. School readiness gains are made when children are enrolled in an educational and structured program prior to the start of kindergarten. Research has suggested such interventions to be vital for a successful and smooth adjustment into formal schooling.

Based on the work by Winsler, et al. (2008), these gains are especially powerful for students who are ethnically, economically and linguistically diverse. “Such interest in early childhood is fueled by recent findings that children’s preschool and childcare experiences are crucial for the development of important school readiness skills and later school outcomes” (p. 314). The authors later go on to stress that a “successful transition to school buffers children’s future academic and behavioral development” (p. 314). This is especially important for students who are entering school already facing challenges such as uneducated or single parent households, financial constraints, or language barriers.

While Winsler, et al. (2008) states that any form of childcare or pre-k program will help children make school readiness gains, they stress, that children who attend high quality programs, such as those housed in public schools, make greater overall gains. This statement is in agreement with other articles summarized in this section. The authors continue by stating that in addition to academic gains, students who attend public early learning centers make greater growth in the areas of socio-emotional skills and adaptive behavior. The research from this article compared center-based care centers, Title I public school pre-k programs, and fee-supported public school pre-k programs. According to the authors, gains were made in all programs, but there were significant differences between the programs in how much the children

gained over the year. Children in Title I schools showed greater gains than those children in community-based programs.

Overall, the results supported the idea that any program a child is enrolled in prior to kindergarten will yield positive academic results. Low income and low language students especially benefited from the exposure to vocabulary, comprehension skills and text. The children attending any of the three programs show improvements in transition time, reduced dropout rates, and fewer discrepancies between skill levels between students. Winsler (2008) goes on to state, that children who lack necessary skills upon entering school are the children who fall behind. This is also true for students of poverty. This is important to know as to keep them from falling behind. Winsler concludes by stating that pre-k and public school programs are helping prevent this (p. 314).

Fontaine, Torre and Grafwallner (2006), discussed the importance of quality early learning centers, but also celebrated the success of such programs. They reported that “quality early care is important to the healthy development of young children, and their later success in school” (p. 99). According to these authors, it is surprising many students are not enrolled in a program of quality or one that offers structural or educational advantages. “60% of children ages five or younger are in childcare on a regular basis and 44% of infants are in childcare for more than 30 hours a week” (p. 100). Additionally, the number of single parents is increasing, resulting in less care by the parents at home and more use of childcares centers and daycare programs.

There are a number of reasons why a parent would choose early learning program for their child, yet, they too must understand the importance of the center offering a structured environment, a developmentally appropriate curriculum and a knowledgeable and skilled staff.

Unfortunately, those at the greatest risk are those who are not often enrolled in such programs. Along with public schools, pre-k and childcare centers need the support of families to ensure a child is ready for school on all levels. “Parents must be able to engage in and support their children’s education at school and in the community, particularly during the early years” (Fontaine, et al., 2006, p. 101).

While the research suggests that any sort of pre-kindergarten experience is helpful, overall the results demonstrated that a high quality program will yield the greatest gains in academic and social growth both of which can provide a smooth transition into school. Early learning centers such as public school preschool programs are helping children get ready for their first year of formal school by providing students with multiple exposures to text and developmentally appropriate materials, surrounding them with educated and knowledgeable teachers and giving them as much structure and routine as possible. Research shows this to be an effective and beneficial practice. Overall, it is understood how vital a quality pre-kindergarten program is to a child’s success. Continuity between schools and community based programs would be a very positive solution to the discrepancies teachers are seeing in the gaps their students are bringing to school and effective in preparing these children for kindergarten.

Head Start

Head Start is a federally funded program in the United States aimed to provide preschool to children. The goal of this program is to enhance children’s development and improve later school success for low-income students. Much research has been conducted of the effects of Head Start. Positive overall results are presented when a student who attended a Head Start program entered kindergarten.

Love, et al., (2005) followed several 3-year olds enrolled in a Head Start program to track their progress and overall program effectiveness. While the enrollment in Head Start showed significant impacts on the student, “the overall positive impacts included higher performance in children’s cognitive and language functioning, as well as reduction in aggressive behavior”. Similar to other pre-kindergarten programs, Head Start is also proven to “lessen the risk of needing remedial services at an early age” (p. 893).

Other research shows similar conclusions to that of Love, et al. (2005). Lee, Brooks-Gunn and Schnur (1988), argued that Head Start helped to “close the gap” between disadvantaged children and the high expectations of starting school. It is unfortunate however to learn from this article that “Head Start serves less than a third of all eligible 4-year olds” (Love, et al., 2005, p. 893). This strongly suggests and agrees with the importance of collaboration between community services, public schools and families and the need for full funding of these vital programs. There needs to be a more efficient way to make sure more children are served in order to make that gap smaller.

Love, et al. (2005), compared children in groups of those who attended Head Start, those who attended other preschool programs and those who have no previous early learning experience. Results show “Head Start students gained significantly more than students in either the No Preschool or the Other Preschool comparison groups”. The results suggest Head Start to be an “especially enriching preschool experience,” and is “most effective for the least advantaged children” (p. 893).

Others are praising Head Start’s advantages for underprivileged students as well. Wasik, Bond and Hindman’s (2006) article supports the Love, et al’s (2005) research. In a study conducted in two Head Start locations, one being the intervention site and the other being the

control site, teachers were given materials, training and experience in exposing children to additional text, comprehension strategies, and materials. As predicted by the authors, the students who received more interventions in the areas of literacy and language, showed greater growth and made larger gains towards meeting upcoming kindergarten expectations. While “most children acquire language and pre-literacy skills through interactions with adults and peers who use language in ways that are consistent with the majority culture and correspond to the printed words” (p. 63), most children enrolled in Head Start are “raised in poverty and have limited access to opportunities to develop language and literacy skills” (p. 63). This, in turn, affects them at the beginning of kindergarten. Many studies concerning Head Start yielded the same conclusion: children from high-poverty homes can greatly benefit from exposure to early intervention programs, and repeated exposure to text to build fluency, comprehension, and vocabulary. These authors also argue that “the time that children spend in preschool classrooms can be used to effectively implement methods that result in increased language and literacy skills” (Wasik, Bond & Hindman, 2006, p. 63).

“Program quality is an important theme for Head Start” (p. 289). This speaks volumes of the importance of a high expectation early intervention program. The authors examined the components of high quality programs and how Head Start compares on those components. Factors including “developmental appropriateness, an integrated curriculum that provides for physical, emotional, social and cognitive development, learning that is promoted through play, a choice of materials and activities, and teachers who interact with children in a responsive and informative way” (Bryant, Burchinal, & Lau, 1994, p. 289). Overall, the results showed that children enrolled in higher quality Head Start classrooms performed higher on cognitive tests as well obtained more pre-academic skills vital to success in kindergarten.

This not only supports the academic benefits of Head Start, but demonstrates that the curriculum and experiences Head Start provides gives students is an advantage when entering kindergarten. Head Start alumni make smoother transitions to both the academic requirements and the structure expectations. Overall, Head Start was deemed a valuable tool for early interventions.

Head Start is beneficial to the transition between preschool and kindergarten, but how, if at all, does it affect students in later grades? Although authors Currie and Thomas, (1999), looked primarily at African American students; they determined that the overall effects of Head Start depend on the quality of schools attended after leaving the Head Start program. However, immediate results remained the same. "Children who participate in a Head Start program reap many benefits during the program and immediately after completion. These benefits include improvements in future school attendance and a reduction in the probability that a child is placed in remedial education" (Currie & Thomas, 1999, p. 2). Conclusions from this research determined that more research needs to be done in this area, but in its relation to kindergarten, Head Start has once again proven to be an effective measure taken towards preparing children for elementary school.

Overall the research conducted on the effects of Head Start in comparison to other early intervention programs, suggests positive results. Students enrolled in Head Start enter kindergarten performing better on assessments, having had more exposure to language, literacy, routines and high expectations. Head Start is considered a high-quality educational experience. It is also a program very important to students of low income communities and vital to their level of kindergarten readiness. This is discussed in the next section of the literature review and the research supports pre-kindergarten programs as a vital piece of kindergarten readiness.

Kindergarten Readiness

Whether to start a child in kindergarten at age five or wait until they are a year older has been a debate between parents and educators for years. However, the definition of “ready” varies from person to person. Some may say it is when they know their letters and sounds, others may say it is when they have the stamina to sit and listen and follow directions. Overall, most can agree when they observe a child who is ready for school. According to an article by Ramey and Ramey (2004), much can be done in preparing children and ensuring they are “ready” for kindergarten. With more demanding curriculum and building pressure of changing state standards, kindergarten teachers are struggling to keep up against difficult odds. It has been noted that “one-third of children entering kindergarten are consistently judged by their kindergarten teachers as not ready for typical kindergarten-level work” (p. 472). This is important also as an “unprecedented number of children start public kindergarten with major delays in language and basic academic skills” (p. 472). The authors go on to argue, and agree with previously summarized resources, that educators have no time to waste when dealing with students who enter school already behind or facing the risk of falling behind.

Waiting until these children “fail” in school and then providing remedial, pull-out, or compensatory programs or requiring them to repeat grades typically does *not* sufficiently help these children to catch up and then achieve at grade level.

Instead, the scientific evidence affirms that children who do not have positive early transitions to school—that is, those children who have early failure experiences in school—are those most likely to be more inattentive, disruptive, or withdrawn (Ramey & Ramey, 2004, p. 472).

Additionally the authors include the importance kindergarten readiness has on the transition to and success rate of a student's kindergarten year. A successful kindergarten transition is not based on academics alone, but on social and emotional levels as well. Studies conducted by the authors have shown that students who do not have positive experiences in early learning situations are often those who experience early failure, or are most likely to be disruptive, inattentive or withdrawn.

Readiness for kindergarten and a successful adjustment are so important for these students. Ramey and Ramey (2004) stress that this area needs to be further investigated and the "well-being and the school readiness of our nation's children need to be a major priority so that all young children receive the essential transactions and the learning opportunities vital for their brain development and success in school" (p. 488).

Readiness for school implies that each child must attain a specific set of skills before he or she is ready to enter kindergarten (Diamond, Reagan & Bandyk, 2000, p. 93). Often times, parents' ideas of "ready" for kindergarten can differ from those of the teacher. Diamond, Reagan and Bandyk (2000) noted those differences. The study showed that "parents who believed that kindergarten readiness skills were important provided a variety of early learning experiences for their child" (p.94). While little is known about what parents do to prepare their child for school, the authors stress the importance of reading to children as a way of getting them ready for kindergarten. "Research on family-child reading suggests that parents or other family members read to slightly more than half of the 3- to 5-year olds in the United States on a daily basis" (p. 95). While most children are watching TV, parents need to be actively involved in preparing their child to be successful in school.

While some differences were outlined in the article, there were some similarities in beliefs between teachers and parents on what it is to be ready for kindergarten. “In a study of parent and teacher views about important developmental competencies for kindergarten, reported that teachers and parents agreed that the three skills that were most important for children entering kindergarten were listening, feeling confident, and following directions” (Diamond, Reagan & Bandyk, 2000, p. 94). These skills and more are developed when a child is enrolled in a preschool like program.

In addition to involving parents and building strong relationships between schools, communities and families, those involved in kindergarten readiness are on a continual mission to provide students with necessary skills to enter kindergarten successfully. Protheroe (2006) explained what teachers need to be doing collaboratively with community childcare providers and families to identify and provide skills vital to preparing a child for school. By building stronger relationships, teachers and community members are creating a solid foundation for success. The author suggests developing ties between these partners in education and work together to support students in mastery of crucial skills.

Most parents, and some childcare providers, do not understand at what level students need to be in order to be ready to make the successful transition into kindergarten. According to Prothero (2006), “Children need to develop the ability to listen to and comprehend a story being read aloud. Children also need to develop the language and thinking ability necessary to retell and sequence a story” (p. 94). By creating continuity of expectations between early learning centers and kindergarten classrooms, all students can enter school with the appropriate set of skills to be successful. Prothero also suggests children be able to “recognize and generate rhymes

in games and songs and poetry, acquire familiarity with upper and lowercase letters and develop the ability to problem solve” (p. 94).

In agreement with Prothero is Gulino (2008). He reiterated the importance of readiness for a positive and beneficial school year. He also stressed the importance of entering school at the appropriate time and with the support of family. “When children enter school ready to learn, the world becomes their oyster and they flourish. Children who experience early school successes tend to maintain higher levels of social competence and academic achievement throughout their school careers” (p. 31). Additionally, Gulino supports the concept of acceleration vs. remediation, that is, starting the children off correctly so that they won’t require interventions and remediation later.

When children enter school and are not ready, they may: develop negative self-esteem that stays with them throughout their entire school careers and possibly beyond, not receive the extra help they need to survive the kindergarten experience, tax the system by requiring remediation in kindergarten and future grades, experience negative relationships with peers and take valuable time away from the children who are ready. (p. 31)

It is known there is not any time to waste when dealing with children, especially those coming from difficult home lives. While many would argue that waiting until a child is older and more mature is unnecessary, there is a risk of failure when starting a child too early as well. The importance of readiness for school and entering feeling confident, prepared and motivated cannot be stressed enough.

“Kindergarten, a pivotal year in a child’s continuous educational experience, represents the arrival of a relationship in which school becomes a significant partner with parents, childcare

providers, and other involved in early learning experiences” (Gulino, 2008, p. 31). Kindergarten teachers are seeing that an increasing number of students are entering school with significant gaps in their academic abilities and skill levels. It is also apparent that one of the best early interventions parents can provide is to send their child to a quality pre-kindergarten program. Teachers must make families aware of this necessary step in kindergarten readiness and make those connections between the community and early learning centers and the school.

Gallant (2009) focuses on kindergarten readiness from a literacy standpoint. Children are entering kindergarten having little to no experience with books or being read aloud to. “Children are coming to school with fewer skills, and yet expectations that they will read in kindergarten is a given. It is just not happening in high-risk communities” (p. 214). Gallant contends that more and more children are being placed in front of a TV, playing individual games such as a Gameboy or computer games and not being taken places (such as a museum, a play, or concert) to build background knowledge and vocabulary skills. She also states that

(M)any families/parents are not reading to children. Lack of time families have for children, inconsistent family dynamics/structures, the number of students who go between different homes, caregivers, one or both parents do not live with them on an consistent basis- all this is staggering. We need to teach all students, but this does make it more difficult (Gallant, 2009, p. 215).

According to the research, it is apparent why students, who face so many challenges outside of school, would experience difficult transitions into kindergarten. The authors argue that it is the responsibility of teachers everywhere to work collaboratively with the community and families involved to provide the smoothest adjustment possible. By building solid relationships,

creating continuity, and giving students every possible opportunity to get ahead, readiness for kindergarten can be achieved.

In their book, Pianta and Marcia Kraft-Sayre (2003), reiterate the importance of these partnerships. Kindergarten presents “more formal academic demands, a more complex social environment, less family support and connections, and less time with teachers due to larger class size and more transitions during the school day” (p. 2). Even up against such different changes from the average preschool or childcare facility, Pianta and Kraft-Sayre state that children can in fact be “ready” for kindergarten come September. While they agree that there are “multiple definitions of readiness, typically *readiness* is described as a set of skills, generally academic, the acquisition of which determines how successful a child is expected to be in kindergarten” (p. 2). They also goes on to state that “(readiness) is a reflection of a preschool’s preparation of a child, of a kindergarten’s preparedness to welcome that child, and of the parent’s recognition of the differences between preschool and kindergarten and their ability to manage those differences” (p. 2). Another important statement both authors make in this book is the idea of how children are made ready for school.

Children are ready for school when, for a period of several years, they have been exposed to consistent stable adults who are emotionally invested in them; to a physical environment that is safe and predictable; to regular routines and rhythms of activity; to competent peers; and to materials that stimulate their exploration and enjoyment of the object world and from which they derive a sense of mastery (p. 12).

It is clear these authors strongly agree with the role of partnerships created by schools, community centers, and families, in the success of readiness for kindergarten. So much is known

about how to create smooth adjustments to the world of formal schooling, yet it is still an issue seen each September in kindergarten classrooms around the country. The literature reviewed in this chapter reinforced the need for high quality programs available to children preparing to enter kindergarten. These programs need to be taught by trained professionals, present quality curriculum and provide students with the skills they need to successfully start the school year. Programs may vary from preschool to childcare to Head Start, but any exposure to a structured setting where children are presented with routines, schedules, and expectations will help the kindergartner come the formal school year.

Another key factor presented in the research was the importance of parent involvement. By providing more opportunities for communication and participation by families, kindergarten teachers can build that relationship that is so vital to the student's success. This relationship is also needs to be strengthened between elementary schools and community pre-kindergarten programs.

The following chapters will incorporate the knowledge gained from this literature review and further explore the methodology used in Lake Grove's Pre-K Summer camp. Chapter Three will include information about Lake Grove's population, as well as its summer camp demographics, while Chapter Four will explain the data collection process and present tables outlining the information collected. Chapter Five concludes the project by presenting the relationship to current research, recommendations for classroom practice, and suggestions for additional research.

Chapter Three

Methodology

“School readiness and school achievement are at the forefront of our country’s domestic social policy concerns. How can we help all of America’s children to truly succeed in school and life?” (Ramey & Ramey, 2004, p. 472). The goals of the Lake Grove Pre-K Summer Camp were to do just that, provide future kindergartners with an opportunity to experience school routines and feel comfortable in their new surroundings. The success of their hard work can be measured by the students’ scores on the district literacy assessments. These assessments are used to determine the results of the study. The study was conducted from the beginning of the summer camp (August) through the end of the second grading period (January).

This describes in detail the participants, data collection methods and procedures used in this study to determine if the goals of this intervention program were in fact reached. It also helped answer the question driving the research.

Subjects

Kindergartners from Lake Grove Elementary in the 2010-2011 school year were the participants for this project. They were split into two groups. The groups were made up of those who attended camp, labeled “camp”, and those who did not attend camp labeled “no camp.” There were twenty-seven kindergartners who attended the two-week summer camp. Four percent were African American, 15 % were Pacific Islander, 37% were Euro-American, and 41% were Hispanic. This is an accurate portrayal of the diverse student population at Lake Grove as the majority of cultures represented at the school were in attendance at summer camp. Out of the 27 participants, 17 were girls and 10 were boys. However of those 27, only 24 were included in the study as three students had moved during the data collection period. Camp was taught by two of

Lake Grove's current kindergarten teachers, each with several years of kindergarten teaching experience. The control, or "no camp" group, consisted of similar demographics. The students, each five or six years old, did not attend the two-week summer camp provided by Lake Grove Elementary. There were 32 students in the "no camp" group.

The participants in both groups reflected the 71 percent of students at Lake Grove who receive free and reduced lunch. Although many of these students attended camp, the camp was a free, half-day opportunity for all students to prepare for kindergarten. Although all kindergarten students were welcome, the program encouraged those children who had not attended any sort of preschool or daycare and were lacking exposure to routines and structured settings to participate. When the camp started in 2008, students were enrolled based on academic need according to assessments given at Lake Grove's annual Kindergarten Round-Up prior to kindergarten enrollment. Since then, because of positive outcomes and a growing need for early intervention programs such as the Pre-K camp, teachers have since decided to enroll as many children as possible and no longer look at Round-up assessment scores as enrollment requirements.

At the time of the study, 59 kindergartners were enrolled at Lake Grove. Of that, 36 were girls and 23 were boys. They were split evenly between four all day kindergarten classrooms in the building. According to information sheets filled out by parents at the beginning of the school year, most of the kindergartners enrolled had not previously attended a preschool or daycare.

Setting

Lake Grove is in a low income neighborhood in the middle of Federal Way, WA. Surrounded by apartments and low income housing, most of its students come from financially struggling households. While Federal Way School District is home to 23 elementary schools, Lake Grove is one of the smallest with an overall enrollment of just under 400 students. Lake

Grove is one of the many Title I schools in the district. This was even more of a reason for Lake Grove to offer this important program.

The curriculum was created by the kindergarten teachers, and focused mainly on readiness and building early literacy skills. Components of the curriculum were modeled after a balanced literacy program. A balanced literacy program includes both shared reading and writing opportunities, as well as times for students to work independently and in small groups on reading and writing. Teacher read alouds are also a large component of a balanced literacy block and this is a time for students to practice reading skills as well as work on comprehension strategies. Each day included a whole group shared reading lesson, small group instruction, read alouds to build background knowledge and vocabulary skills, and basic math skills such as colors, shapes, number recognition to 10, counting and simple patterns. There was also a focus on phonemic awareness, rhyming, and name writing/recognition.

While the academic skills presented were of the utmost importance when planning this two week camp, the social and emotional skills fostered and nurtured during camp were also necessary for each child to experience. Much of the time was spent learning rules and routines, classmates' names, the layout of the classrooms and the school, and the structure and organization of a school setting. The children were able to be in a relaxed, comfortable atmosphere where they could form relationships and build confidence.

Instruments and Procedures

Although the students were introduced to routines, staff, school layout, and basic reading and math skills, the goal for camp and for the kindergarten school year was to provide essential skills and strategies important to a smooth and successful transition. After the first two days of camp (time was allowed for children to become comfortable with staff), students were assessed

on baseline skills including concepts about print, letter identification and numbers 1-10 recognition. The assessments were sections of the Federal Way School District assessments given to the students multiple times a year to track progress and record growth. These assessments were given in full to the students in September, January and June. Optionally, some teachers use them in between these grading windows as a form of progress monitoring. The scores from the literacy assessment were used in this study. The testing was administered the same regardless of the grading period.

The length of the test is approximately 10-15 minutes. The section most widely focused on during the summer camp was concepts about print. Based on the work by Marie Clay and her 1993 book, *An Observation Survey of Early Literacy Achievement*, the concepts about print section of the assessment consists of 11 questions and is a quality indicator of pre-reading skills and exposure to text. The questions are as follows:

- Orientation of book (student shows you the front cover vs. back)
- Print, not the picture, carries the message (student points to words when asked “Where do we start reading?”)
- Directionality (student moves finger from left to right)
- Return sweep (student does a return sweep to the second line and then moves left to right)
- Word-by-word matching (student must point to each word as it is being read)
- Left page vs. right page (student shows they know where we start to read)
- Period (student can identify a period and tells you what it means)
- Concept of a letter (students use a paper window to show 1 letter and then 2 letters in the “window”)

- Concept of a word (students use the same paper window to now show 1 word in the “window”)
- Concept of first and last letter (students point to the first and last letter of a word)
- Concept of a capital letter (students point to a capital letter)

The other two assessments given at camp were letter identification and number recognition. The letter identification test is given by showing the students all 52 letters, both capital and lowercase, in D’Nealian font and asking them to identify each letter. The letters are not in order in order to determine if the student recognizes the letter and is not just memorizing the alphabet song. Number identification is the numbers one through ten. The numbers are mixed up and the student is asked to tell the teacher what numbers he/she sees. The students were individually tested in the hallway away from distractions. These assessments were given to obtain baseline scores for the new students. The math section consists of nine different areas, however for the purposes of this study, only data based on the literacy assessments were collected and analyzed. This decision was made based on the curriculum used during summer camp.

The district assessments were also used to collect the scores from the first two official grading periods of the school year. Both the literacy and math sections of the assessments are both valid and reliable. The assessments are valid because they are used to show growth over time and they yield consistent results. They are reliable because they measure what they are designed for-- to show growth in the areas of literacy and math. These particular assessments are more extensive than those given at summer camp and take much longer to administer and score. All assessments are district designed.

The literacy assessment consists of seven different sections:

- Concepts about print
- Letter identification (both capital and lower case letters)
- Letter sounds
- Phoneme blending
- Segment onset-rime
- Critical words
- Blends (CVC words)

The literacy assessment, when given in full, is a comprehensive assessment of pre-reading skills. For the concepts about print section the student is given a book and asked the questions outline earlier. The letter identification portion of the test was also outlined above, but the sounds portion is tested in the same manner. For phoneme blending, students are orally given ten words and asked to put the word together after hearing the three sounds. An example of this is... “/c/ /a/ /t/...what is that word? Cat.” Segmenting onset-rime is also an oral test in which the student is given ten words and asked to separate the first sound from the rest of the sounds they hear. An example of this is... “gum.../g/ /um/”. Critical words are tested by having the student read the words from a list and blends are assessed by showing a student five different words (using all five vowels) to see if they are able to blend the sounds together and read the word correctly.

After collecting data from the first two grading periods of the school year, a paired-sample *t*-test was used to determine growth made by students who attended camp as compared to those who did not. A *t*-test is used when comparing two different scores and needed to determine growth. Test scores in each of the seven literacy assessment categories from January were subtracted from test scores of the same seven categories from September to determine the level of growth. This was completed for both groups of students, “camp” and “no camp.” A completed

t-test was used to decide if the growth made is enough to determine an academic benefit to Lake Grove's Pre-K summer camp.

Summary

The participants of this study and the data collected from their literacy assessments provided the author with the answer to the question of whether or not summer camp provided academic benefits to its students. By collecting data from the first two grading periods and analyzing these through the use of a variety of *t*-tests, the subject's academic growth was determined. Data were collected after obtaining permission from Central Washington University's Human Subjects Review Committee and Federal Way School District. Details of this are outlined in Chapter Four. Also included in the following chapter are tables representing each of the seven literacy assessment components, as well as details about the data and their ability to answer the question posed in Chapter One.

Chapter Four

Results

Overview

The purpose of this project was to determine if Lake Grove Elementary School's summer camp provided its students with academic benefits compared to other students who did not attend camp. To answer the question, data from the first two grading periods, October and January, were collected from each of the four kindergarten teachers and compiled into a table. Another kindergarten teacher from Lake Grove, not affiliated with the study, compiled the data to maintain confidentiality. Student's names were removed and students were assigned numbers. Camp attendees were also located and identified. Children were then separated into two groups simply named "camp" and "no camp." After categorizing the participants, data were entered containing both the pre (fall) and post (winter) scores for each of the seven literacy sections of the district assessment. Only data for students who had both pre and post scores were used. Once data were entered for all 58 participants, 24 who attended camp and 34 who did not, the difference, in scores was found by subtracting the fall score from the winter score. This chapter will outline in detail the seven literacy assessments and the data collected to determine statistical significance, if any, between the groups. The next step in the process was to compare the differences in growth, if any between the "camp" and "no camp" groups. Seven (one for each category assessed) different *t*-tests were calculated to determine the statistical significance of each area.

The tables are presented in the order the tests were given, starting with concepts about print and concluding with blends. Tables 1-7 show the results of the 2-Sample Assumed Equal

Variance t -tests run on each category. For each table, variable 1 represents the “camp” students, while variable 2 the “no camp” students.

Results

Concepts about Print

The first table shows the mean scores from the concepts about print section of the assessment. Each student was handed a book and was asked eleven questions about the book. The questions are outlined in Chapter Three. The data were collected for this section and were entered into the table below.

Table 1

Mean Scores from Concepts about Print

	<i>Camp</i>	<i>No Camp</i>
Mean	3.625	3.617647
Variance	6.592391	4.78877
Observations	24	34
Pooled Variance	5.529543	
Hypothesized Mean Difference	0	
Df	56	
t Stat	0.011729	
P(T<=t) one-tail	0.495342	
t Critical one-tail	1.672522	
P(T<=t) two-tail	0.990684	
t Critical two-tail	2.003241	

As observed by looking at the means for both variable 1 and 2, there are very few differences. In addition, there is no statistical significance between the group of students who attended camp when compared to those students who did not attend camp.

Blending

Table 2 shows the mean scores from the blending portion of the test. The blending is an oral test in which students are given three sounds and asked to blend them together to make a word. The scores were collected and entered into Table 2 for analysis.

Table 2

Mean Scores from Blending

	<i>Camp</i>	<i>No Camp</i>
Mean	7.125	6.4117647
Variance	9.418478	14.128342
Observations	24	34
Pooled Variance	12.19393	
Hypothesized Mean Difference	0	
Df	56	
t Stat	0.766112	
P(T<=t) one-tail	0.223414	
t Critical one-tail	1.672522	
P(T<=t) two-tail	0.446827	
t Critical two-tail	2.003241	

After looking at Table 2, which shows students scores for phoneme blending, a small difference in mean scores (7.12 vs. 6.41) between the two variables is observed, but again no statistical significance is found.

Segmenting

Table 3 compares the means and standard deviation (variance) for students' scores in the area of segmenting onsets and rimes. This was another oral test in which students are given ten words and asked to separate the first sound (onset) they hear from the rest of the sounds (rime). The data from this test are shown in Table 3.

Table 3

Mean Scores from Segmenting

	<i>Camp</i>	<i>No Camp</i>
Mean	7.708333	6.882353
Variance	11.1721	14.65241
Observations	24	34
Pooled Variance	13.223	
Hypothesized Mean Difference	0	
Df	56	
t Stat	0.851993	
P(T<=t) one-tail	0.198924	
t Critical one-tail	1.672522	
P(T<=t) two-tail	0.397847	
t Critical two-tail	2.003241	

Again, the data shows no statistical significance, but the mean for “camp” is higher than “no camp”, showing slightly more growth was made by students who were enrolled in camp.

Letter Identification

Table 4 shows the mean scores from the letter identification portion of the literacy assessment. Given to students in random order, all 52 letters, both upper and lowercase, are shown and the student must be able to identify the letter names in less than three seconds. Data from the first two grading periods are shown in Table 4.

Table 4

Mean Scores from Letter Identification

	<i>Camp</i>	<i>No Camp</i>
Mean	25.25	18.97059
Variance	228.1957	205.3021
Observations	24	34
Pooled Variance	214.7048	
Hypothesized Mean Difference	0	
Df	56	
t Stat	1.607419	
P(T<=t) one-tail	0.056793	
t Critical one-tail	1.672522	
P(T<=t) two-tail	0.113587	
t Critical two-tail	2.003241	

The previous three tables showed no statistical significance, and the data presented in Table 4 shows similar results. No statistical significance was found.

Letter Sounds

The mean scores of letter sounds are displayed in Table 5. The letter sounds assessment is administered very similarly to the letter identification portion of the test. Teachers show students all 26 letters in random order and ask them to orally tell them the sounds the letters make. The assessment has a maximum possible score of 31. The test includes the long and short vowel sounds. Data compiled from the kindergarten students are shown below. *

Table 5

Mean Scores of Letter Sounds

	<i>Camp</i>	<i>No Camp</i>
Mean	19.79167	17.52941
Variance	61.30254	81.4082
Observations	24	34
Pooled Variance	73.15052	
Hypothesized Mean Difference	0	
Df	56	
t Stat	0.992119	
P(T<=t) one-tail	0.162703	
t Critical one-tail	1.672522	
P(T<=t) two-tail	0.325407	
t Critical two-tail	2.003241	

For data produced from scores in the letter sounds category, no real statistical significance was found.

Blends

Table 6 is an outline of data from the blends section of the literacy assessment. The blends assessment consists of five simple three-letter words- -one including each of the five vowels. The student must blend the word to read it. Data from this assessment were compiled and entered into the following table.

Table 6

Mean Scores of Blends

	<i>Camp</i>	<i>No Camp</i>
Mean	2.375	2.176471
Variance	3.201087	4.210339
Observations	24	34
Pooled Variance	3.795825	
Hypothesized Mean Difference	0	
Df	56	
t Stat	0.382211	
P(T<=t) one-tail	0.351876	
t Critical one-tail	1.672522	
P(T<=t) two-tail	0.703752	
t Critical two-tail	2.003241	

Again, notice the scores in the means column for both variables. For camp students the mean was 2.37. For “no camp” students, the mean was 2.17. While the means are close, no statistical significance was found.

Critical Words

Table 7 shows the mean scores of critical words, sometimes referred to as sight words. These are the 16 most common sight words in the English language and are on the “readiness” lists for kindergarten reading. The words are compiled in a list and the student reads as many as they can. The scores from this assessment are shown in Table 7.

Table 7

Mean Scores of Critical Words

	<i>Camp</i>	<i>No Camp</i>
Mean	13.29167	18.70588
Variance	61.08514	464.8806
Observations	24	34
Pooled Variance	299.036	
Hypothesized Mean Difference	0	
Df	56	
t Stat	-1.17437	
P(T<=t) one-tail	0.122608	
t Critical one-tail	1.672522	
P(T<=t) two-tail	0.245217	
t Critical two-tail	2.003241	

After reviewing Table 7, it is noticed that this is the only example that does not follow the trend of students in the “camp” category having larger means than the students in the “no camp” category. As seen based on the variance, variable 2 (“no camp”) is higher than variable 1. This is caused by an outlier in the data in which one student made an enormous and uncommon (when compared to classmates) amount of growth (116 words gained in four months) in critical words in comparison to his peers. However, similar to Tables 1-6, no statistical significance was found.

Overall, none of the areas tested produced results that were significant statistically. To rule out any other options and possibly produce more positive results, other *t*-tests were calculated. First, the differences in pre and post tests were combined to determine the average growth. Each student’s score was averaged and compared. However, no statistical significance was produced. Additionally another *t*-test was conducted comparing the sum of the scores from both “camp” and “no camp” students (run separately). Like the others, no statistical significance was found.

Unequal Variances

While it may seem according to the data above that the camp has no academic advantages, many positive trends were displayed in most of the subject areas. A final *t*-test was conducted on the most dominant area of growth, which was letter identification. This time using an unequal variance *t*-test, scores in this area alone were compared.

Table 8

Unequal Variances: Letter Identification

	<i>Camp</i>	<i>No Camp</i>
Mean	25.25	18.97059
Variance	228.1957	205.3021
Observations	24	34
Hypothesized Mean Difference	0	
Df	48	
t Stat	1.592588	
P(T<=t) one-tail	0.058909	
t Critical one-tail	1.677224	
P(T<=t) two-tail	0.117818	
t Critical two-tail	2.010635	

While the test again produced very close results, data suggests once more that there is no statistical significance. Results from this *t*-test can be seen in Table 8. There is a positive trend in higher scores produced by students who attended summer camp versus students who did not.

With the exception of critical words, the other six areas of the literacy assessment, concepts about print, blending, segmenting, letter identification, letter sounds and blends, showed greater means which suggest higher scores were obtained by kindergartners who attended summer camp.

In most areas, lower standard deviations were also shown. The data produced not only showed higher scores for most categories, but showed the students who attended camp had more consistent growth. This is evidenced when comparing both means and variance of the seven areas. Table 9 outlines the mean and standard deviations for these sections.

Table 9

Mean & Standard Deviation

	"Camp" Mean	"Camp" SD	"No Camp" Mean	"No Camp" SD
CAP	3.63	2.57	3.62	2.19
Blending	7.13	3.07	6.41	3.76
Segmenting	7.71	3.34	6.88	3.83
Letter ID	25.25	15.11	18.97	14.33
Sounds	19.79	7.83	17.53	9.02
Blends	2.38	1.79	2.18	2.05
Critical Words	13.29	7.82	18.71	21.56

Data compiled and outlined in Tables 1-9 showed that while no areas determine statistical significance, most show means for campers are higher for most tests and standard deviations are smaller for campers in most areas. The following chapter presents the author's recommendations based on these data, suggestions for additional research, and limitations posed by the project.

Chapter Five

Discussion and Recommendations

After researching the topic of kindergarten readiness and learning how to assist in the process of transitioning to kindergarten, there appear to be many benefits to Lake Grove Elementary School's summer camp. The summer camp's goals not only help prepare students for a significant adjustment in their lives by building relationships, introducing expectations, and easing their fears of school, but it helps them academically by giving them a preview of what they will be learning throughout their nine and a half months in kindergarten. The purpose for this chapter is to review the study, data, and literature in order to make informed recommendations and suggestions for future research.

It is suggested that "significant progress is made by students, both socially and academically, when they are enrolled in a quality preschool or Head Start program prior to the beginning of kindergarten" (Nelson, 2004, pg. 187). It is implied that a smooth transition into school benefits the student not only at the beginning of the year, but throughout their academic career. The goal of this project was to identify academic gains made by Lake Grove's camp. While the numbers from these assessments alone might not show statistical significance, those who attended camp had higher scores than those that did not. This shows positive trends in scores for those who attend camp.

Summary of Results

While the Pre-k summer camp provided an early learning opportunity for students to become familiar with the staff, school, and routines, it also allowed them time to understand the expectations and curriculum they would be facing upon starting the school year. Data collected shows that while camp attendees did make greater gains in the seven literacy areas of the district

assessments, no statistical significance was present. The author found this surprising, but positive nonetheless. This could be based on a variety of issues and are addressed in the following paragraphs. With a larger sample size, more time, or a longer period of data collection, it may be that more statistically significant results would appear. The greatest surprise was the lack of statistical significance in the area of concepts about print. With most of the curriculum and emphasis of summer camp being focused on early literacy skills, it was the author's expectation that this section would have had greater means. Regardless, camp shows important growth and provides positive outcomes for those involved.

Relationship to Current Research

Literacy and math data are collected four times a year at Lake Grove. Used as a form of parent communication and progress monitoring, teachers administer these assessments to track growth and determine student areas of strength and weakness. For the purpose of this study, data were only collected at two different points. Because results showed a positive trend that could be accentuated by a longer observation period, it may be beneficial to continue to follow these same 58 students through the end of the year. Even continuation of assessment into their first grade year may assist in determining if their attendance at camp had any lasting academic effects. The long term gains may prove more pronounced than the short term gains. This, supported by the work of Paris (2010), suggests that students enter school and rapidly develop skills that show correlations with later reading success. His theory also predicts strengths in students that are temporary and unstable. While the correlations may be strong, it may benefit the researcher to follow the participants into later grades to truly determine the long term effects of the camp. This, according to Paris, is when children begin demonstrating true mastery of a skill.

Recommendations for Classroom Practice

Some may wonder what this new information means for the classroom. It is apparent how important parent involvement is in a child's education. More emphasis needs to be placed on the active role parents need to play in the classroom and/or at home. Also, a collaboration and relationship needs to be built between elementary schools and preschool and daycare centers. These facilities need to know the standards kindergarten students are facing and what they can do to help prepare them.

Primary teachers also need to be advocates for the importance of an early childhood education. This is especially important if they agree with the belief that enrollment in a high quality early learning program aids in the smooth transition into kindergarten. Other advocates for pre-kindergarten programs need to be administrative officials. Inviting them to camp to meet the children and then again to visit the classroom throughout the year to observe the effects of summer camp would be very beneficial in the defense of the program.

Suggestions for Additional Research

After analyzing the data and determining the results of Lake Grove's Pre-K camp, the author has developed several suggestions for additional research. These include looking at the length of the Pre-K program, sample size, location of camp, and the possibility of completing a qualitative study.

Length of Program

When Lake Grove first began its pre-k camp in the summer of 2008, funding allowed for a three-week program. The following year, funding was cut back and a one week program was conducted. The 2009-2010 budget allowed enough for a two week camp. While two weeks seemed to be a happy medium, it is speculated from the data collected that students would

benefit from a longer camp experience. With means higher for almost every area for the students who attended camp, it is possible more time would allow them to continue showing growth and end with a greater difference in scores. It is believed that more time would benefit students not only academically, but it would allow them to form stronger bonds with classmates and staff, and acquire more confidence and knowledge before starting school.

Sample Size

While almost half the kindergarten class attended Lake Grove's pre-k summer camp, data suggested that sample size may be affecting its ability to show statistical significance. With a larger group of participants, a greater gain in skills and a larger difference in growth may be shown. Positive trends in growth were evident from the data collected and as a whole the "camp" group was higher than the "no camp" group. The consistency in growth trends would support continued study with a larger group and determine if a bigger sample would produce similar results.

Location

Lake Grove, a Title I elementary school with a high free and reduced lunch population, sits in the middle of a low income neighborhood in Federal Way, Washington. While its summer camp program produced consistent results, it could be beneficial to attempt the same study with a different population, perhaps in another area, or with multiple schools. Different results or areas producing statistical significance may arise if this study was conducted with a different population. Additionally, a collaborative program between other schools may yield different results. It may be interesting to see what difference in means data would produce if conducted within a whole school district. Federal Way's 23 elementary schools would provide a significant amount of data to possibly show different results.

Qualitative Study

Additional benefits from the Pre-K camp could emerge using a qualitative study. This could be an option for a further research project. For example, not only does it appear that are students more confident walking through the classroom door the first day in September, but they are aware of expectations, comfortable with the routines and excited to learn. Teachers who have experienced this first hand with their students can attest to its successes in a way that numbers cannot always show. These data could be collected using teachers' anecdotal notes and parent feedback.

Conclusion

While camp had no significant academic effects on its participants, readers must not discredit the many benefits of the pre-k program that are not represented by numbers and data. While the data proved no statistical significance, the data did show "camp" students having higher means than the "no camp" students. Also, time is not wasted learning basic social skills such as sharing, taking turns, and school routines and teachers can get right to what is important: providing the best education they can. By combining parent involvement and quality programs, children can obtain the proper level of preparedness needed for a successful start to kindergarten. This paper summarized these important factors in readiness for school.

It is hoped that the research presented in this paper is enough to keep this program around for years to come. If the district wants to revolutionize the way our children perform in school, changes need to be addressed at the root of the problem. It is the author's opinion that a change in the way teachers, parents, and community groups prepare children for kindergarten needs to be made and more successful transitions need to happen. These children deserve nothing less.

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